

CHAPTER EIGHT

FUEL SYSTEM

The fuel system consists of the carburetor, fuel tank, fuel shutoff valve and air filter.

This chapter includes service procedures for all parts of the fuel system, except routine air filter service which is covered in Chapter Three.

The carburetor is equipped with an air cutoff valve. The valve plunger blocks the pilot air passage when the throttle closes to prevent a lean condition afterburn in the exhaust system.

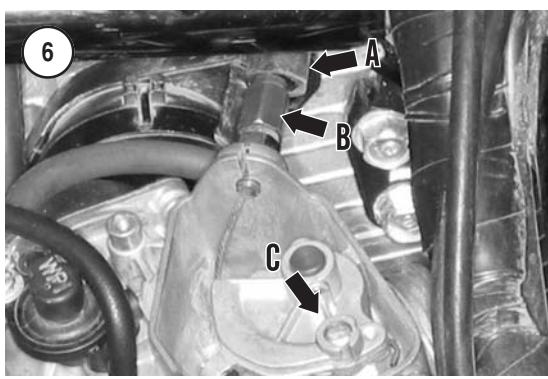
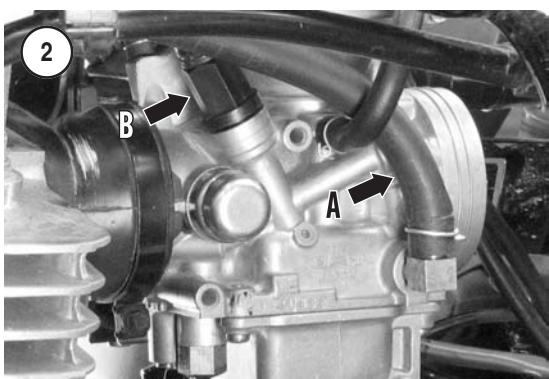
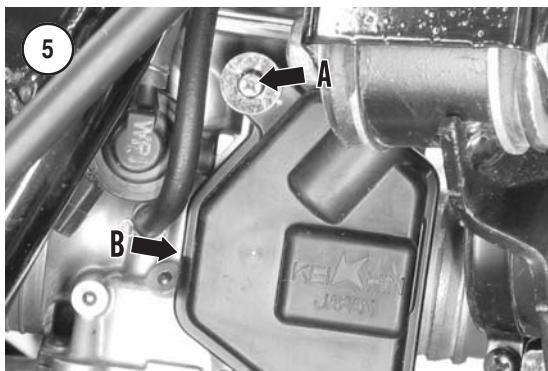
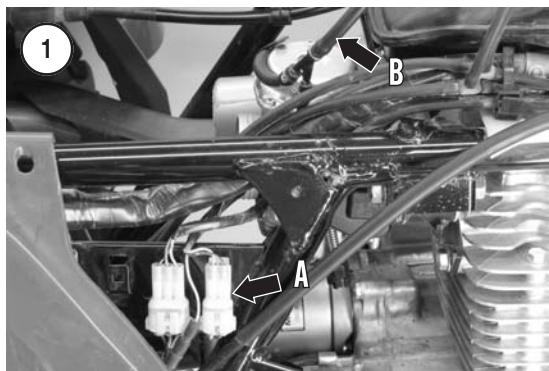
Table 1 and **Table 2** lists carburetor specifications. **Tables 1-2** are located at the end of the chapter.

CARBURETOR

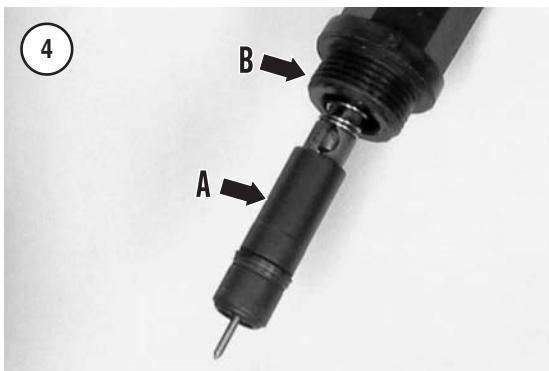
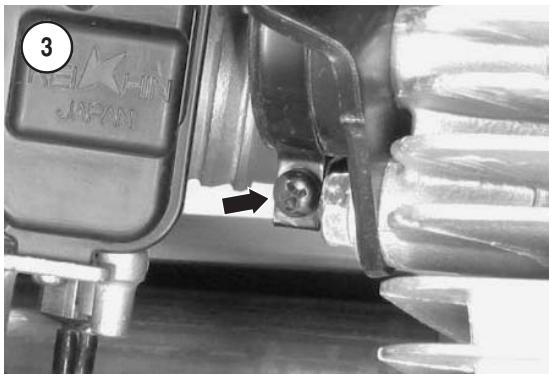
Removal/Installation

1. Park the ATV on level ground and set the parking brake.
2. Remove the seat and both side covers (Chapter Fifteen).
3. Remove the air box as described in this chapter.
4. Disengage the carburetor heater wire from the clamp, then disconnect the connector (A, **Figure 1**).
5. Disconnect the breather hose (B, **Figure 1**).

6. Disconnect the fuel hose from the carburetor (A, **Figure 2**).
7. Loosen the starting enrichment (SE) valve nut (B, **Figure 2**).
8. Loosen the front carburetor hose clamp (**Figure 3**).
9. Pull the carburetor back to remove it from the intake tube.
10. Remove the SE valve (**Figure 4**) from the carburetor.
11. Disconnect the throttle cable as follows:
 - a. Remove the carburetor cover screw (A, **Figure 5**) and cover (B).
 - b. Slide the cover (A, **Figure 6**) away from the throttle cable adjuster (B) on the carburetor.
 - c. Loosen the throttle cable locknut and unscrew the adjuster from the carburetor.
 - d. Disconnect the throttle cable (C, **Figure 6**) from the throttle pulley.
12. Remove the carburetor.
13. Cover or plug all openings.
14. Install the carburetor by reversing the preceding removal steps, while noting the following:
 - a. Apply a dab of grease onto the end of the throttle cable (C, **Figure 6**) before connecting it onto the throttle pulley.



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- b. When connecting the throttle cable and threading the adjuster (B, **Figure 6**) into the carburetor, do not twist or kink the cable.

CAUTION

Do not overtighten the plastic SE valve nut.

- c. Apply some multi-purpose grease into the SE valve nut at the point shown in B, **Figure 4**. Install and tighten the SE valve nut securely. Operate the choke cable by hand, making sure the SE valve moves with no binding or roughness.

CAUTION

*Wipe off any grease that may contact the SE valve (A, **Figure 4**). Otherwise, the grease may plug the valve opening and cause the system to malfunction during engine starting.*

- d. When installing the carburetor, align the boss on the carburetor rim with the intake tube slot (**Figure 7**).
e. When installing the throttle cable cover, Make sure the tab at the lower end fits the slot in the carburetor (**Figure 8**).

- f. Check and adjust the throttle cable adjustment (Chapter Three).

Disassembly

Refer to **Figure 9**.

1. Label, then remove any hoses from the carburetor.
2. Remove the carburetor heater (**Figure 10**).
3. Remove the screw, air cutoff valve (**Figure 11**), air jet and O-rings.
4. Remove the screws and cover (**Figure 12**).
5. Remove the spring and vacuum cylinder assembly (**Figure 13**).
6. Remove the jet needle (**Figure 14**) as follows:
 - a. Turn the jet needle holder (**Figure 15**) counterclockwise to release it from the vacuum cylinder.
 - b. Remove the jet needle holder, spring, jet needle and washer.

NOTE

*Before removing the jet needle, first record the clip position and compare it to the standard clip position listed in **Table 1**.*

7. Remove the screws, primer valve assembly (**Figure 16**) and spring (**Figure 17**).
8. Remove the float bowl screws (**Figure 18**), float bowl and gasket.
9. Remove the main jet baffle (**Figure 19**).
10. Remove the float pin (**Figure 20**), float and fuel valve (**Figure 21**).
11. Remove the plug (**Figure 22**).
12. Remove the starter jet (**Figure 23**).
13. Remove the slow jet (**Figure 24**).
14. Remove the main jet (A, **Figure 25**).
15. Remove the needle jet holder (B, **Figure 25**).
16. Turn the carburetor so its top side faces up and tap the body to remove the needle jet (31, **Figure 9**). If the needle jet does not fall out, gently push it out with a plastic rod.
17. While counting the number of turns, rotate the pilot screw in until it is *lightly* seated. Record the number of turns during reassembly. Back the pilot screw out and remove it from the carburetor (A, **Figure 26**).
18. Unscrew and remove the idle speed adjusting screw (A, **Figure 27**) and spring.



19. Remove the drain screw (**Figure 28**) and O-ring from the float bowl.

NOTE

Further disassembly is neither necessary nor recommended. Do not remove the choke shaft or plate as these parts are not available separately.

20. Clean and inspect all parts as described in this chapter.

Cleaning and Inspection

1. Clean and dry the carburetor parts.

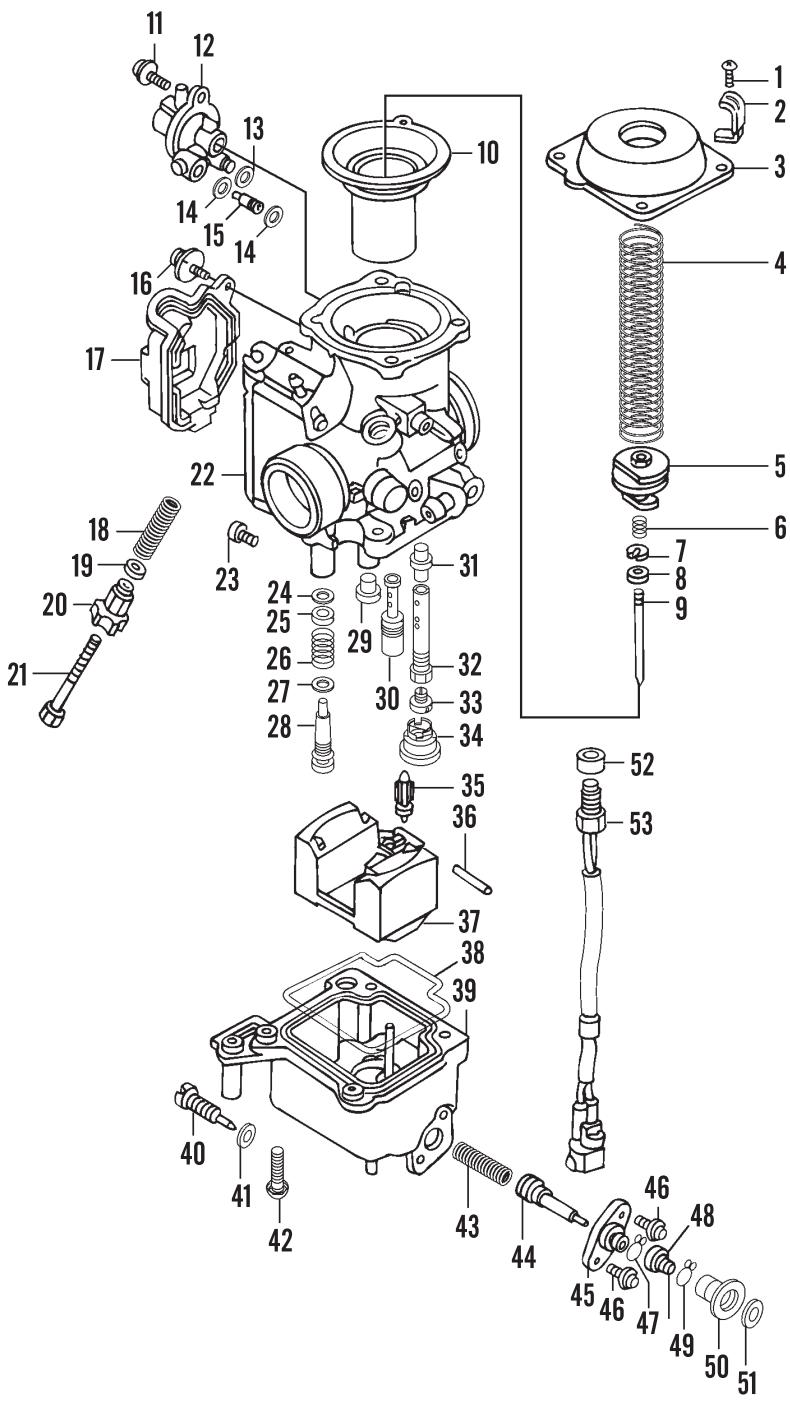
CAUTION

Do not dip the carburetor body or any of the O-rings in a carburetor cleaner or other solution that will damage the rubber parts and seals.

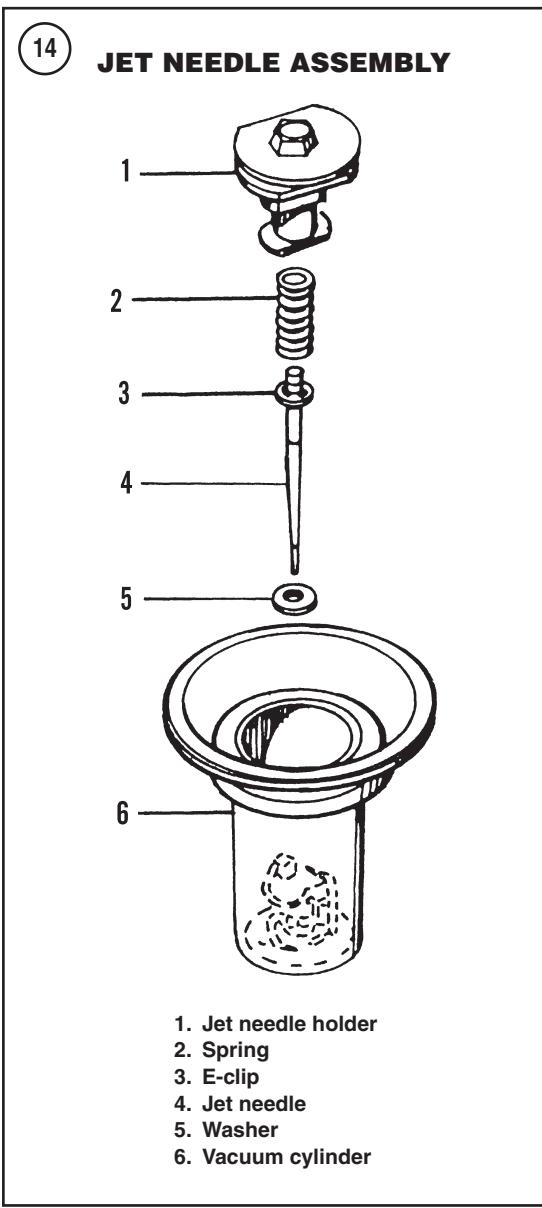
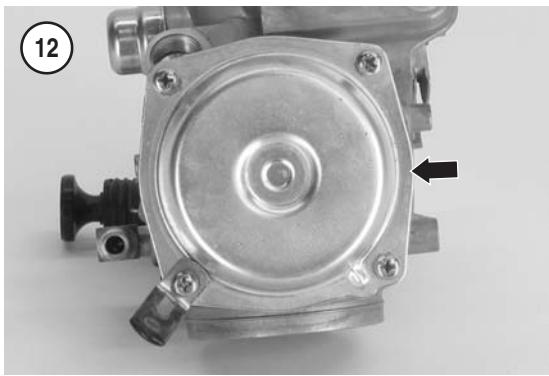
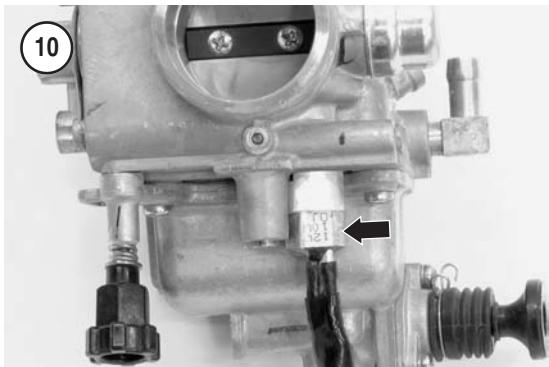
CAUTION

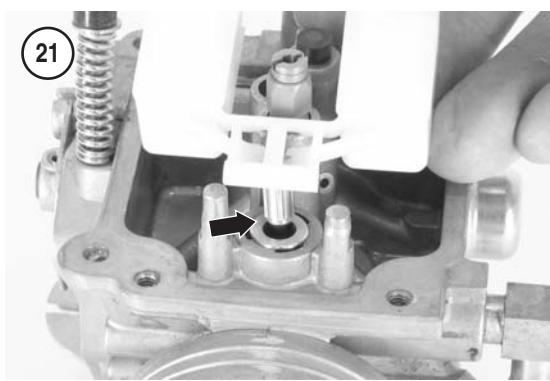
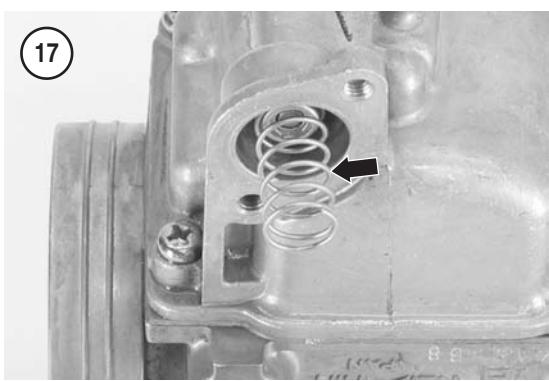
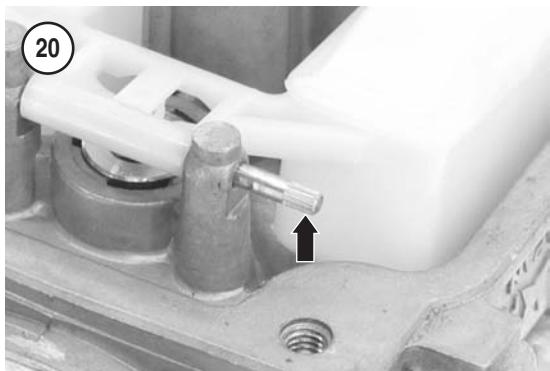
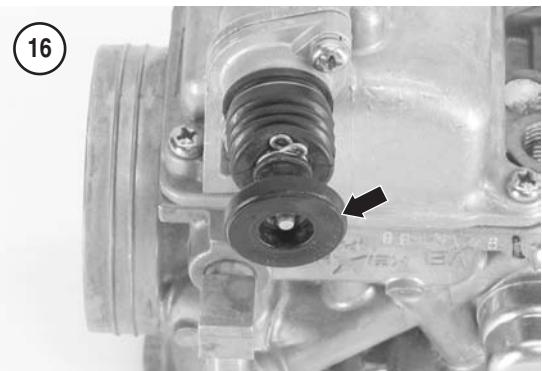
Do not use wire or drill bits to clean jets as minor gouges in the jet can al-

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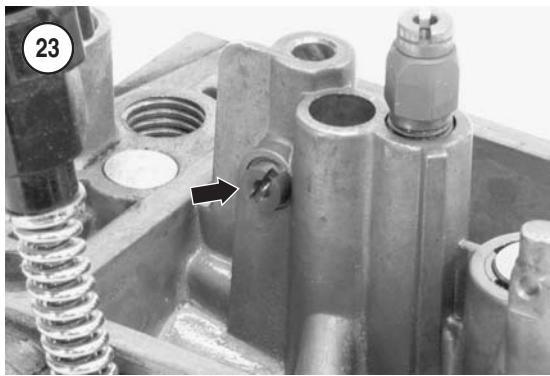
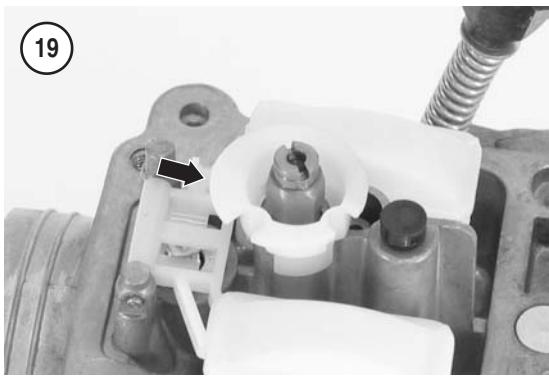
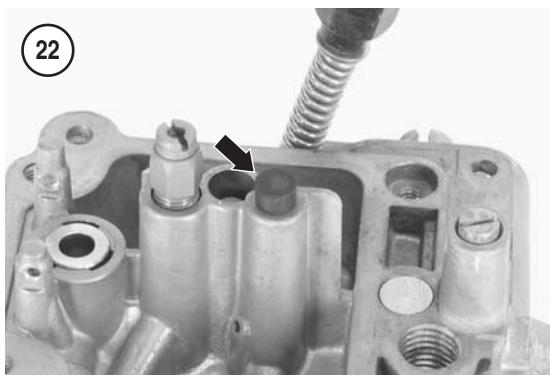
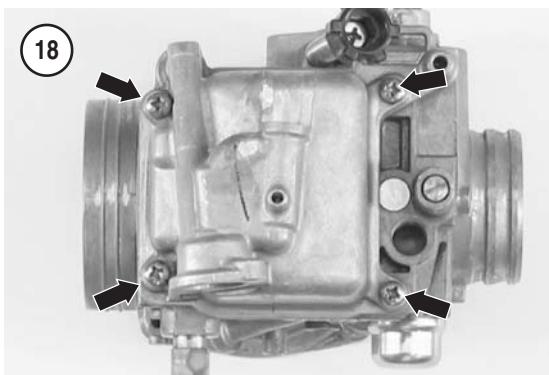
CARBURETOR

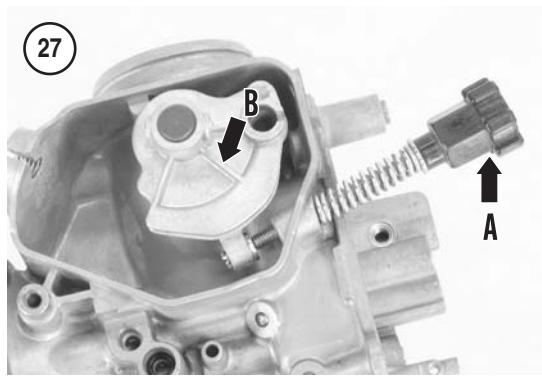
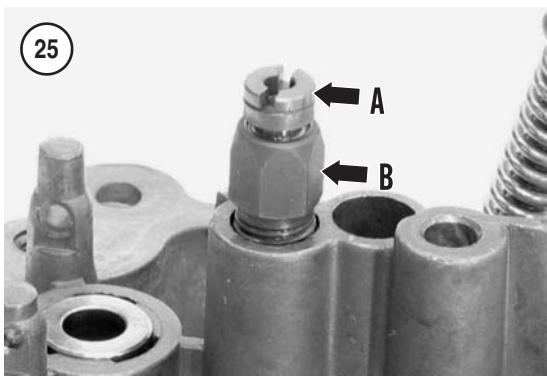
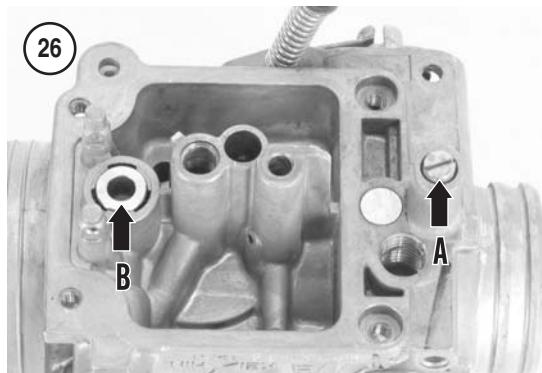
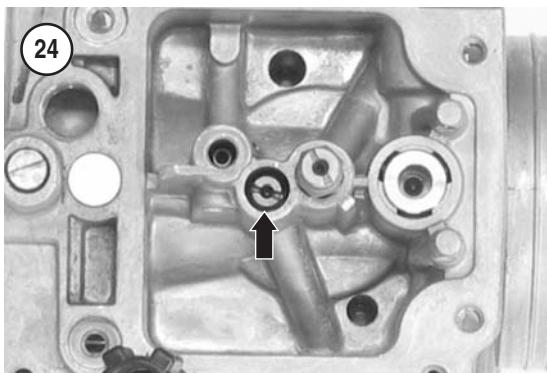
1. Screw
2. Clamp
3. Cover
4. Spring
5. Jet needle holder
6. Spring
7. E-clip
8. Washer
9. Jet needle
10. Vacuum cylinder
11. Bolt
12. Air cutoff valve
13. O-ring
14. O-ring
15. Tube
16. Screw
17. Side cover
18. Spring
19. Washer
20. Idle speed knob
21. Bolt
22. Body
23. Starter jet
24. O-ring
25. Washer
26. Spring
27. O-ring
28. Pilot screw
29. Plug
30. Slow jet
31. Needle jet
32. Needle jet holder
33. Main jet
34. Main jet baffle
35. Fuel valve
36. Float pin
37. Float
38. Gasket
39. Float bowl
40. Drain screw
41. O-ring
42. Screw
43. Spring
44. Primer diaphragm and shaft
45. Primer body
46. Screw
47. Clip
48. Boot
49. Clip
50. Primer knob
51. Cap
52. Collar
53. Heater





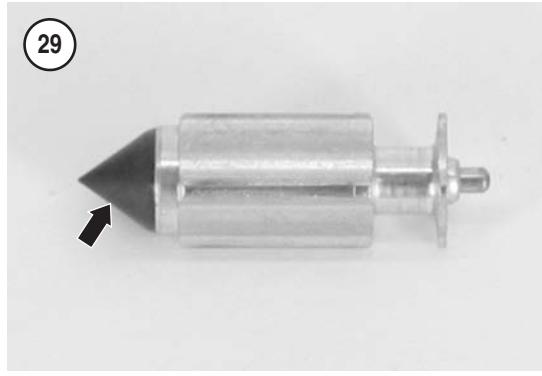
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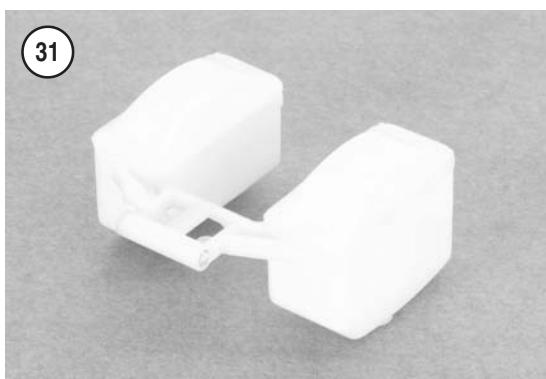




ter the flow rate and change the air/fuel mixture.

2. Clean the float bowl overflow tube with compressed air.
3. Replace the float bowl O-ring if it is leaking or damaged.
4. Inspect the fuel valve assembly as follows:
 - a. Check the end of the fuel valve needle (**Figure 29**) for steps, excessive wear or damage.
 - b. Inspect the fuel valve seat (B, **Figure 26**) in the carburetor for steps, uneven wear or other damage.
5. Inspect the pilot screw (**Figure 30**) and spring for damage. Replace the screw if it is damaged. Replace both pilot screw O-rings.
6. Inspect the float (**Figure 31**) for deterioration or damage. Check the float by submersing it in a container of water. If water enters the float, replace it.
7. Move the throttle pulley from stop-to-stop and check for free movement. If it does not move freely, replace the carburetor body.
8. Make sure all openings in the carburetor body are clear. Clean them with compressed air.





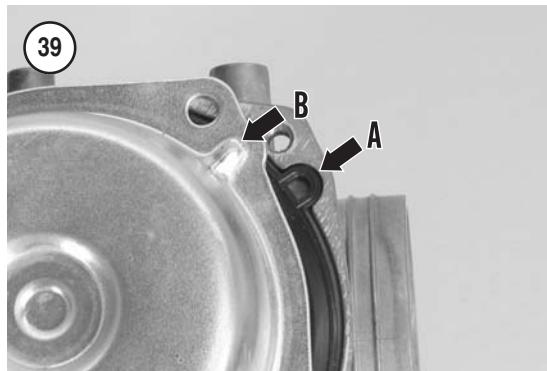
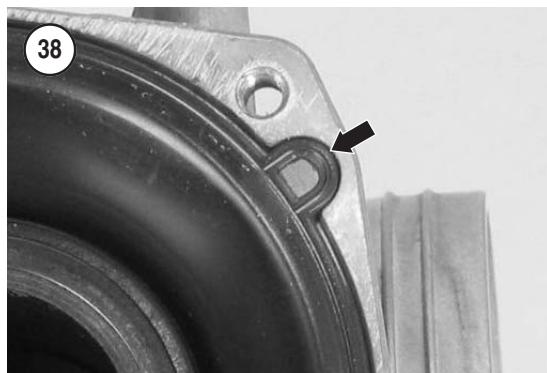
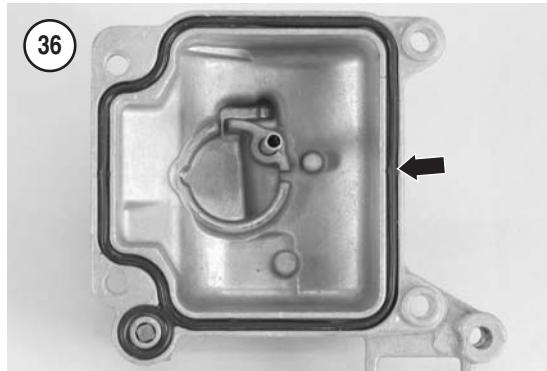
9. Check the vacuum cylinder diaphragm (**Figure 32**) for cracks, deterioration or other damage.
10. Check the primer valve assembly (**Figure 33**) for wear, damage or deterioration. Check the rubber diaphragm (**Figure 34**) for cracks or other damage.
11. Check the carburetor heater (**Figure 35**) as described in this chapter.
12. Make sure all jet openings are clear. Replace any jet that cannot be cleaned.

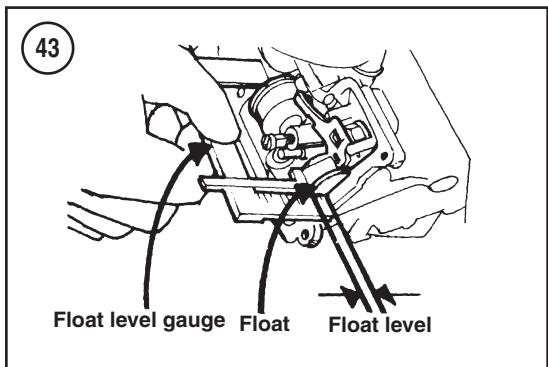
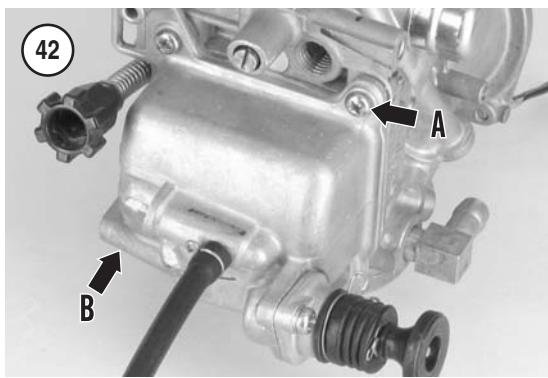
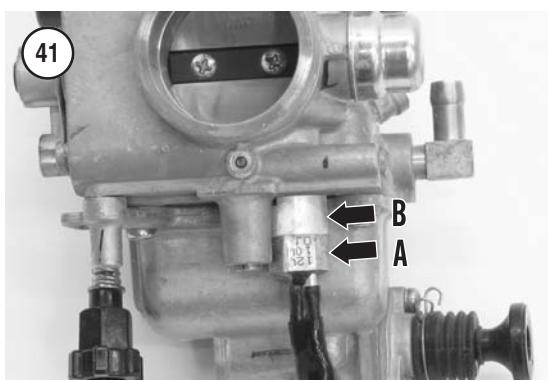
Assembly

Refer to **Figure 9**.

1. Install the drain screw (**Figure 28**) and O-ring into the float bowl. Tighten the drain screw securely.
2. Install the idle speed adjusting screw (A, **Figure 27**) and spring.
3. Install the two O-rings, spring and flat washer onto the pilot screw (**Figure 30**).
4. Install the pilot screw (A, **Figure 26**). Turn it in until it is *lightly* seated. Back the screw out the number of turns recorded during removal, or set it to the initial adjustment listed in **Table 1**.

5. Install the needle jet (31, **Figure 9**) with its chamfered end facing toward the needle jet holder, and install the needle jet holder. Tighten the needle jet holder (B, **Figure 25**) securely.
6. Install the main jet (A, **Figure 25**).
7. Install the slow jet (**Figure 24**).
8. Install the starter jet (**Figure 23**).
9. Install the plug (**Figure 22**).
10. Install the fuel valve onto the float, and then install the fuel valve into the fuel valve seat (**Figure 21**). Insert the float pin (**Figure 20**) through the pedestal arms and float.
11. Check the float level as described under *Carburetor Float Level Inspection* in this chapter.
12. Install the main jet baffle (**Figure 19**).
13. Install the O-ring into the float bowl groove (**Figure 36**). Then install the float bowl and secure it with its mounting screws (**Figure 18**).
14. Install the primer valve spring (**Figure 17**) and primer valve (**Figure 16**) into the float bowl. Tighten the screws securely.
15. Assemble the vacuum cylinder and install the jet needle (**Figure 14**) as follows:
 - a. Install the E-clip, if it was removed, into the jet needle clip groove recorded during disassembly or refer to the clip position in **Table 1**.
 - b. Install the washer onto the bottom of the jet needle and seat it against the E-clip.
 - c. Install the jet needle and washer (**Figure 37**) into the vacuum cylinder.
 - d. Insert the spring in the end of the jet needle holder.
 - e. Insert the jet needle holder (**Figure 15**) into the vacuum cylinder and turn it 90° clockwise to lock it in place.
16. Install the vacuum cylinder into the carburetor body. Align the tab on the diaphragm (**Figure 32**) with the groove (**Figure 38**) in the carburetor body.
17. Install the spring into the vacuum cylinder (**Figure 13**).
18. Align the tab in the vacuum cylinder (A, **Figure 39**) with the raised boss (B) on the cover. Install the cover and tighten the screws securely.
19. Connect the hoses to the carburetor. Install the overflow hose so the one-way valve installed in the hose faces in the direction shown in **Figure 40**.
20. Install the air jet and O-rings, air cutoff valve (**Figure 11**) and mounting screw. Tighten the screw securely.





21. Check the float level as described in this chapter.
22. Install the carburetor heater (A, **Figure 41**) and collar (B). The stepped end of the collar must be toward the carburetor.
23. Install the carburetor as described in this chapter.
24. Adjust the pilot screw as described under *Carburetor Adjustments* in this chapter.

CARBURETOR FLOAT LEVEL INSPECTION

The fuel valve and float maintain a constant fuel level in the carburetor float bowl. Because the float level affects the fuel mixture throughout the engine's operating range, the level must be within specification.

The carburetor must be removed and partially disassembled for this inspection.

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1. Remove the carburetor as described in this chapter.
2. Remove the float bowl mounting screws (A, **Figure 42**) and float bowl. Do not remove the O-ring from the float bowl groove.
3. Hold the carburetor so the fuel valve just touches the float arm without pushing it down. Measure the distance from the carburetor body gasket surface to the float (**Figure 43**) using a float level gauge, ruler or vernier caliper. Refer to **Table 1** for the float level specification.
4. The float is non-adjustable. If the float level is incorrect, check the float pin and fuel valve for damage. If these parts are in good condition, replace the float and remeasure the float level.
5. Install the float bowl, O-ring and its mounting screws (A, **Figure 42**). Tighten the mounting screws securely.
6. Install the carburetor as described in this chapter.

CARBURETOR ADJUSTMENTS

Idle Speed Adjustment

Refer to Chapter Three.

Pilot Screw Adjustment

The pilot screw (A, **Figure 44**) is preset by the manufacturer. Routine adjustment is not necessary.

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